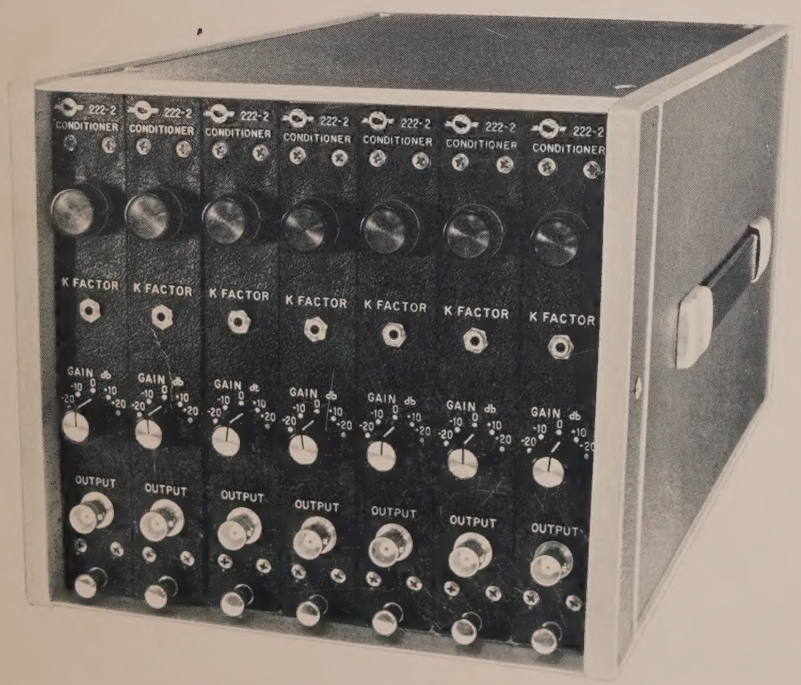
operating & service manual

MODEL 222

SEVEN CHANNEL CONDITIONER



B&K INSTRUMENTS, INC.
Brüel & Kjaer Precision Instruments

WARRANTY

Each instrument sold by B & K Instruments is warranted to be free from defects in material and workmanship, and to operate in accordance with published specifications when used with the recommended B & K associate equipment and with B & K chart paper. Liability under this warranty is limited to servicing or adjusting any instrument returned, and to replacing any defective parts, except tubes, fuses and batteries.

This warranty is effective for one year after date of shipment to the original purchaser. If defective operation had been caused by misuse or abnormal conditions of operations, repairs will be billed at our current rate, in which case an estimate will be furnished prior to starting of repair work.

B & K instruments does not offer or accept any liability for consequential damages arising from the use of any instrument, accessory or system assembly. Transportation charges to Cleveland on returned instruments must be prepaid by the customer. Return surface transportation charges will be prepaid by B & K.

MODEL 222

SEVEN CHANNEL CONDITIONER

B&K INSTRUMENTS, INC.
Brüel & Kjaer Precision Instruments
5111 West 164th Street • Cleveland, OH 44142
Telephone: (216) 267-4800 • TWX: (810) 421-8266
1440 S. State College Blvd. • Anaheim, CA 92806
Telephone: (714) 778-2450 • TWX: (910) 591-1140

© 1971, B & K Instruments, Inc., Cleveland, Ohio

Printed in U.S.A.

TABLE OF CONTENTS

Section		Page
I	GENERAL DESCRIPTION	
	1–1. Description	1–1
	1–2. Specifications, Conditioner Model 222-2	1–1
	1–3. Accessories	1–1
II	INSTALLATION	
	2–1. Inspection	2–1
	2–2. Installation	2–1
III	OPERATING INSTRUCTIONS	
	3–1. Introduction	3–1
	3–2. Initial Calibration	3–1
	3–3. Gain Settings For Correct Operation	3–1
IV	PRINCIPLES OF OPERATION	
	4–1. General	4–1
	4–2. Power Supply	4–1
	4–3. Conditioner	4–1
V	MAINTENANCE	
	5–1. General	5–1
	5–2. Disassembly	5–1
	5–3. Test Procedure – Plug-in Modules	5–1
	5–4. Test Procedures – Power Supply	5–1
VI	COMPONENT IDENTIFICATION AND SCHEMATICS	
	6–1. General	6–1
	6–2. Ordering Information	6–1
	6–3. Waveform Notes	6–1
	6–4. Abbreviations	6–1

ILLUSTRATIONS & PARTS LIST

Figure		Page
2–1.	Model 222 Seven Channel Conditioner	2–1
6–1A.	Parts List, 5 V and 10 V Power Supply Assembly (BL1-0221)	6–2
6–1B.	Component Identification, 5 V and 10 V Power Supply Assembly	6–3
6–1C.	Schematic, 5 V and 10 V Power Supply	6–3
6–2A.	Parts List, 15 V and 200 V Power Supply Assembly (BL2-0221)	6–4
6–2B.	Component Identification, 15 V and 200 V Power Supply Assembly	6–5
6–2C.	Schematic, 15 V and 200 V Power Supply	6–5
6–3A.	Parts List, Signal Conditioner Model 222-2	6–6
6–3B.	Component Identification, Signal Conditioner Model 222-2 Assembly	6–7
6–3C.	Schematic, Signal Conditioner Model 222-2	6–7
6–4A.	Parts List, Main Frame Assembly	6–8
6–4B.	Wiring Diagram, Main Frame Assembly	6–9

Digitized by the Internet Archive
in 2025

https://archive.org/details/manualsplus_09875

SECTION I

GENERAL DESCRIPTION

1–1. DESCRIPTION

The B & K Model 222 Seven Channel Conditioner is a multilevel power supply, main frame assembly which houses seven plug–in modules. Each module provides necessary power supply decoupling and signal conditioning for B & K acoustic and vibration transducers when used with related accessories.

1–2. SPECIFICATIONS, CONDITIONER MODEL 222–2

GENERAL

Operating Temperature: . . . . . 0^{o} C to 50^{o} C

Power Requirements:
(With Modules & Microphones) . . 33 W

Physical Dimensions: . . . . . 7.0" High, 8.0" Wide, 15.0" Deep

Connection Facilities: . . . . . Rear Microphone and Control Connectors

Weight:
(With Modules) . . . . . 22 lb.

INPUT

Voltage Range (Max.) . . . . . 120 dB, 30 μVrms to 20 Vrms

Noise (referred to Input): . . . . . 30 μVrms Typical

Frequency Range: . . . . . 10 Hz to 20 kHz

Response Linearity: . . . . . ±0.5 dB

Scaling (dB): . . . . . +20, +10, 0, -10, -20

Attenuator Linearity: . . . . . ±0.25 dB

K Factor Adjust: . . . . . 0 ±5 dB

OUTPUT

Level (Nominal): . . . . . 1 V at 5 mA peak

Impedance: . . . . . Less than 10 Ω

Connector: . . . . . BNC

1–3. ACCESSORIES*

1. B & K Cathode Followers:
   2612, 2613, 2614, 2615, 2619
2. B & K Microphones:
   4131, 4132, 4133, 4134, 4135, 4136, 4144, 4145, 4146
3. B & K Model 2623 Preamplifier and ZR-0004 Adapter for accelerometers only.
4. Extension Cables - AO-0027 10 ft.
   AO-0028 30 ft.
   AO-0029 100 ft.
5. 19 inch rack mounting adapters:

   KS4-1001 for single unit installations.

   KS4-0001 for dual unit installations.

* Not supplied with Model 222

SECTION II

INSTALLATION

2–1. INSPECTION

In the event of damage to the shipping carton, immediately notify the carrier, initiate a claim, and notify the B & K representative in your area.

2–2. INSTALLATION

The Model 222 is a table model instrument and requires no physical installation. It may be placed flat in a horizontal position, or tilted in front by extending the bail located beneath the unit. It may also be rack mounted using a B & K Accessory Kit (See Section 1–3). The unit is intended for operation from a normal 115 Vac 60 Hz line with the power cord supplied. Cooling is provided by convection. The location or mounting of the unit must insure adequate air circulation.

In acoustical test chambers which operate at ambient air temperature and have sound pressure levels less than 130 dB, the Model 222 can be located inside the test chamber. Microphone Preamplifiers Type 2613, 2615 and 2619 which have 6 ft. cables can usually be plugged directly into the 222. If the microphone array must span more than 12 ft., standard B & K extension cables should be used.

POWER CONNECTIONS

The power cord supplied with the Model 222 uses a "U ground" plug which connects the metallic case to the electrical system ground. If a signal ground for the measuring system is already established at some other point, the "U" ground connection should be disconnected.

SIGNAL LINES

Signal lines from the Model 222 to the external instrumentation should use coaxial, jacketed cable such as RG58.

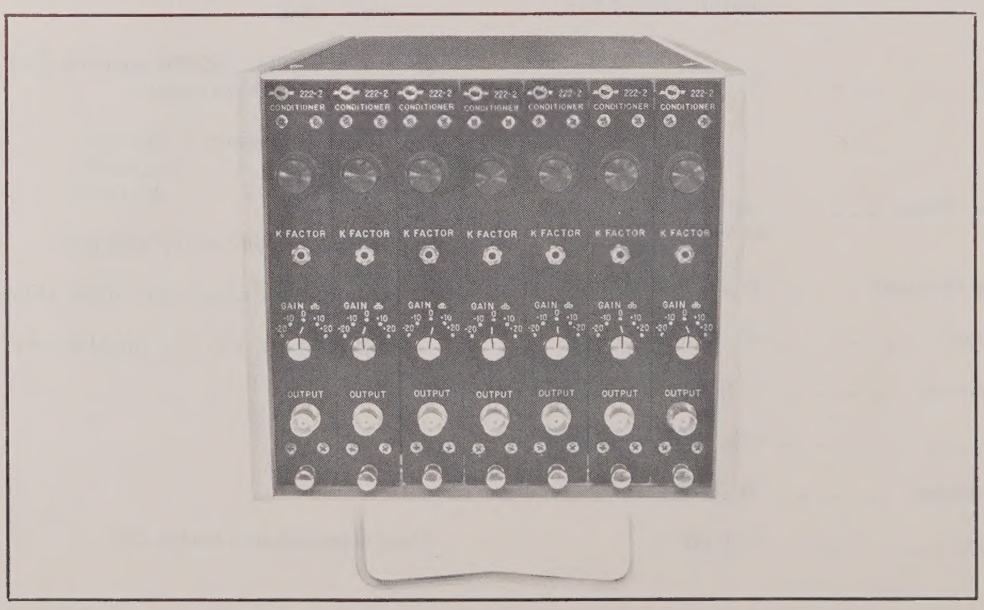


Figure 2–1. Model 222 Seven Channel Conditioner

SECTION III

OPERATING INSTRUCTIONS

3–1. INTRODUCTION

The Model 222 is a seven channel microphone power supply and conditioning amplifier system for use in anechoic and reverberant test chambers, and similar test installations where multiple microphones are used. The Model 222 is especially useful when the microphones are located a long distance from the data analysis equipment.

3–2. INITIAL CALIBRATION

The Model 222 microphone preamplifiers and microphones should be connected with power turned off. The system should be calibrated acoustically using a B & K Model 4220 Pistonphone or 4230 Calibrator and an audio frequency voltmeter (B & K Model 2409 or equivalent).

1. Turn on the ac power and allow 15 minutes for temperature stabilization of the microphone preamplifiers.
2. Set the channel amplifier attenuators to the correct level (See Table 3.1).
3. Mount the 4220 Pistonphone or 4230 Calibrator on microphone #1 and connect the audio frequency voltmeter to the output of the conditioning amplifier.
4. Adjust the K factor control of Channel 1 to obtain the output gain given in Table 3.1.
5. Repeat steps 3 and 4 for all microphone channels. The 222 is now calibrated.

3–3. GAIN SETTINGS FOR CORRECT OPERATION

The Model 222 is intended to operate at about 1 Vrms output and 3 V maximum peak amplitude. Operation at signal levels above 3 V will cause distortion and clipping. The B & K microphones and microphone preamplifiers limit at 30 V peak output. The correct gain settings and maximum sound pressure levels are shown in Table 3.2.

TABLE 3.1. Gain Settings and Output Voltages – Model 222 Conditioner.

	CALIBRATOR			
	4220 (124 dB)		4230 (94 dB)	
Microphone Type	Channel Gain	Adjust Output To	Channel Gain	Adjust Output To
All 1 inch (4131, 4132, 4144, 4145, 4146)	0 dB	1.58 V	+ 20 dB	0.5 V
All ½ inch (4133, 4134)	+ 10 dB	1.0 V	+ 20 dB	0.1 V
4135 (¼")	+ 20 dB	0.63 V	+ 20 dB	0.02 V
4136 (¼")	+ 20 dB	0.316 V	+ 20 dB	0.01 V

TABLE 3.2. Maximum Sound Pressure Levels (dB) for various combinations of Microphones and Model 222-2 Settings.

	dB SPL Peak				
	222-2 Conditioner Gain				
Microphone Type	- 20	- 10	0	+ 10	+ 20
All 1 inch 4131, 4132, 4144, 4145, 4146	146	136	126	116	106
½" (4133, 4134)	160	150	140	130	120
¼" (4135)	174	164	154	144	134
¼" (4136)	180	170	160	150	140

SECTION IV

PRINCIPLES OF OPERATION

4–1. GENERAL

The Model 222 is an all-solid-state instrument composed of two separate sections: the power supply and the conditioner.

4–2. POWER SUPPLY

The power supply consists of a single transformer with four secondary windings driving discrete regulator circuits combined and located on two separate plug-in printed circuit boards.

4–3. CONDITIONER

The conditioner, in addition to serving as a buffer with controllable gain, minimizes possible inter-channel cross talk by individually decoupling the necessary excitation and polarization voltages for the external transducer cathode followers and pre-amplifiers.

SECTION V

MAINTENANCE

5–1. GENERAL

The components of the Model 222 are conservatively rated and the unit should operate indefinitely without repair. A check-out procedure is detailed in Section 5–3.

5–2. DISASSEMBLY

The majority of the components used in the Model 222 have been mounted on printed circuit boards for ease in calibration and maintenance. The instrument is divided into two sections; the front plug-in modules, and the power supply. The components in the plug-in modules are accessible through the module side panels and the power supply can be reached by removing the top cover of the 222 cabinet. REMOVE POWER CORD BEFORE DISMANTLING UNIT.

5–3. TEST PROCEDURE – PLUG-IN MODULES

1. Connect the attenuator output of a B & K Model 1022 oscillator through the JJ-2614 and 2619 cathode follower into the Channel 1 microphone socket on the rear of the 222.

2. Turn on power and allow the 222 to stabilize for 15 minutes.

3. Connect the audio frequency voltmeter to the output BNC connector of Channel 1.

4. Set the Channel 1 conditioning module to -20 dB gain and the oscillator output to 10 Vrms at 1 kHz.

5. Adjust the K Factor control end to end and check that a range of ± 5 dB can be obtained.

6. Reduce the oscillator output in 10 dB steps, increasing the conditioning module gain in corresponding increments. The output should be 1 V at all settings ± 0.5 dB.

7. At +20 dB check the conditioning module output a 10 Hz and 20 kHz. Tolerance +0.5 dB.

8. Repeat steps 1 and 3-7 for Channels 2 through 7.

9. Using a 20,000 Ω/V dc voltmeter with range 0-250 V, check the polarizing and B+ outputs at the 7 pin microphone sockets. The polarizing supply should read 40 ± 5 V and the B+ ~~150~~ 130 ± 10 V. (The polarizing supply is actually 200 V but it is loaded by the meter resistance).

5–4. TEST PROCEDURES – POWER SUPPLY

1. With power off, withdraw the power supply printed circuit cards and inspect the contacts and components for security and cleanliness. Reinsert cards.

2. With power on, check Pins 1 and 7 at the microphone sockets. The open circuit voltage should measure ~~11~~ ± 1 Vdc.

3. Turn off power, remove the control module and remove the side plate covering the rear of the P.C. board.

4. Plug the control module in using the card extende and check the following voltages:

A - B	- 15 V	A - D	+ 15 V
A - E	- 15 V	A - H	- 15 V

The letter sequence of the P.C. connector is ABCDE FGHJK. All voltages may be ± 1 V.

NOTE! CH

SECTION VI

COMPONENT IDENTIFICATION AND SCHEMATICS

6–1. GENERAL

This section contains parts list, component identification and location, circuit diagrams and schematics along with related waveforms and voltage levels.

6–2. ORDERING INFORMATION

When ordering a replacement part, it is important to supply the part number including any suffix, model and serial number of the instrument along with the modification number where applicable. In the event that a required part is not listed in this section, describe the part including function, location, and assembly.

6–3. WAVEFORM NOTES

All waveforms and voltages shown on the schematics circuits were generated and observed using the equipment recommended in the calibration section (3-2) with a Model 222 of known accuracy. The input was a 1 kHz sinusoid whose amplitude was 1.0 Vrms.

The control settings on the conditioner were:

Gain	0 dB
K Factor	Near midpoint

6–4. ABBREVIATIONS

Cap	Capacitor
Comp	Composition
F	Farad
Hz	Hertz
IC	Integrated Circuit
k	Kilohm or 10^3
p	Pico or 10^{-12}
P.C.	Printed Circuit
Res.	Resistor
V	Volt
Vac	Volts, ac
Var	Variable
Vdc	Volts, dc
Vrms	Volts, Root Mean Square
W	Watt
Ω	Ohm
μ	Micro or 10^{-6}

Symbol	Part No.	Description	Typical Mfr.	Mfr's Part No.
C1	CE3-2085	Cap., Electrolytic, 2000 μF @ 25 Vdc	CDE	BR2000-25
C2	CE3-5065	Cap., Electrolytic, 50 μF @ 25 Vdc	Sprague	TE-1209
C3	CE3-2085	Cap., Electrolytic, 2000 μF @ 25 Vdc	CDE	BR2000-25
C4	CK9-2022	Cap., Ceramic, 0.002 μF @ 1 kVdc	Erie	871-000-X5FO-202K
C5	CE3-5065	Cap., Electrolytic, 50 μF @ 25 Vdc	Sprague	TE-1209
D1	QV2-0003	Diode, Zener, 5.6 V	Motorola	IN5232B
D2	QV2-0005	Diode, Zener, 6 V	Motorola	IN5232B
D3	QV0-0001	Diode, Silicon	Motorola	IN4148
D4	QV2-0003	Diode, Zener, 5.6 V	Motorola	IN5233B
D5	QV2-0003	Diode, Zener, 5.6 V	Motorola	IN5232B
D6	QV3-0001	Diode, Bridge	B & T	BFW-100
D7	QV3-0002	Diode, Bridge	Varo	VH-148
Q1	VB2-1001	Transistor, Power NPN	Motorola	MJE521
Q2	VB0-0001	Transistor, Silicon PNP	Motorola	2N2904
Q3	VB2-1001	Transistor, NPN	Motorola	MJE521
Q4	VB2-1002	Transistor, Power NPN	Motorola	MJE2801
R1	RG3-3301	Res., Comp., 3.3 k Ω, ½ W, 5%	AB	
R2	RG3-1001	Res., Comp., 1 k Ω, ½ W, 5%	AB	
R3	RG3-8200	Res., Comp., 820 Ω, ½ W, 5%	AB	
R4	RG3-5600	Res., Comp., 560 Ω, ½ W, 5%	AB	
R5	RC3-2210	Res., Film, 221 Ω, ½ W, 1%	Electra	MF7C
R6	RG3-6800	Res., Comp., 680 Ω, ½ W, 5%	AB	
		MISCELLANEOUS		
	GV0-0001	Heat Sink	Thermalloy	2226B
	GV0-1241	Heat Sink, Rectifier	B & K	

Figure 6-1A. Parts List, 5 V and 10 V Power Supply Assembly (BL1-0221)

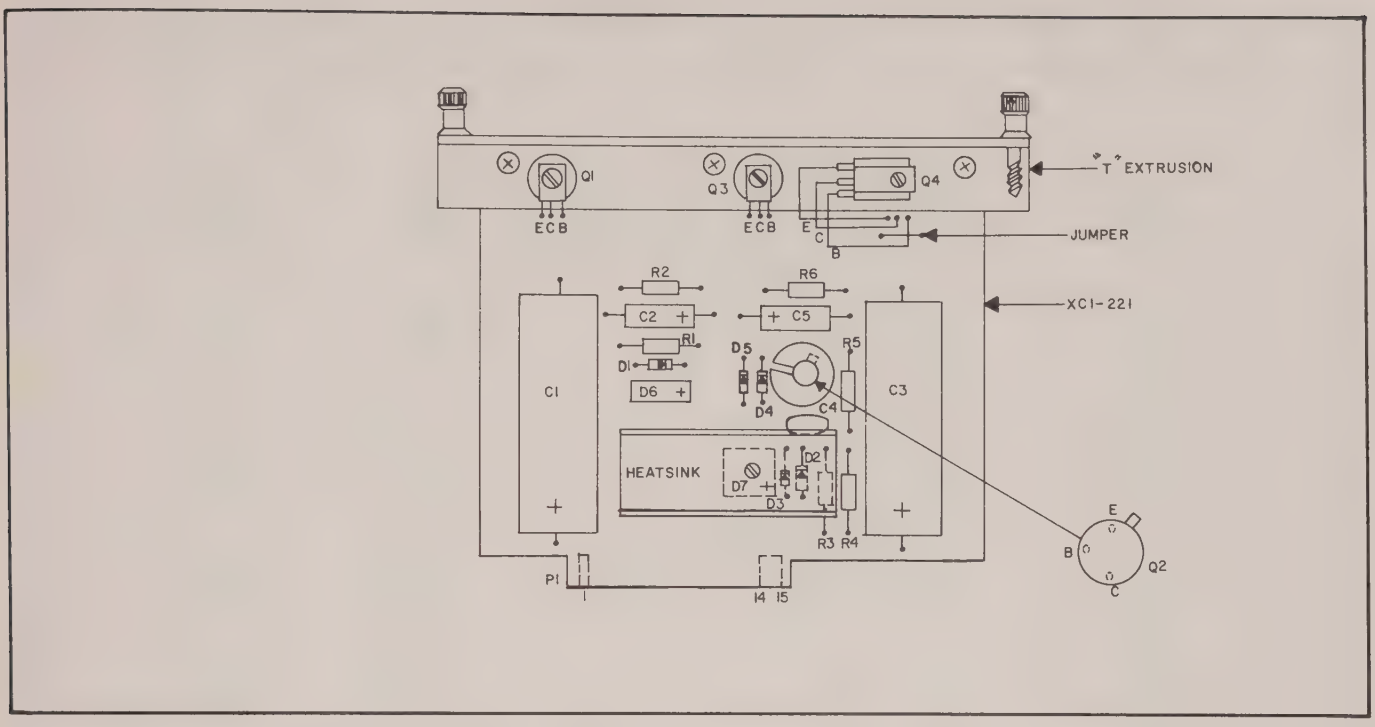


Figure 6-1B. Component Identification, 5 V and 10 V Power Supply Assembly

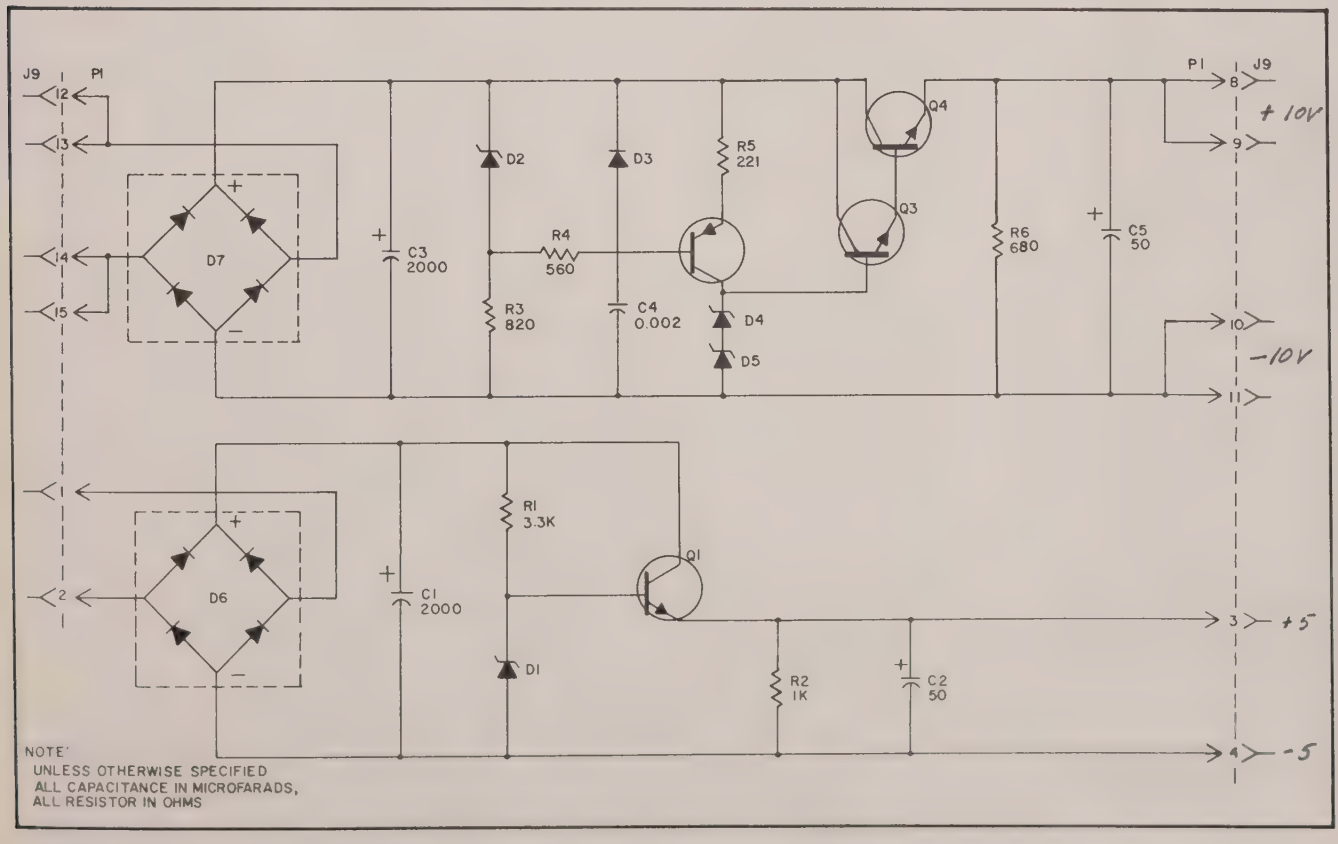


Figure 6-1C. Schematic, 5 V and 10 V Power Supply

Symbol	Part No.	Description	Typical Mfr.	Mfr's Part No.
C1	CE3-2085	Cap. Electrolytic, 2000 μF @ 25 Vdc	CDE	BR2000-25
C2	CE3-2085	Cap. Electrolytic, 2000 μF @ 25 Vdc	CDE	BR2000-25
C3	CK9-2022	Cap., Ceramic, 0.002 μF @ 1 kVdc	Erie	871-000-X5FO-202K
C4	CK9-2022	Cap., Ceramic, 0.002 μF @ 1 kVdc	Erie	871-000-X5FO-202K
C5	CE3-5065	Cap., Electrolytic, 50 μF @ 25 Vdc	Sprague	TE-1209
C6	CE3-5065	Cap., Electrolytic, 50 μF @ 25 Vdc	Sprague	TE-1209
C7	CE7-1072	Cap., Electrolytic, 100 μF @ 350 Vdc	CDE	BR100-350
C8	CE7-1072	Cap., Electrolytic, 100 μF @ 350 Vdc	CDE	BR100-350
D1	QV2-0001	Diode, Zener, 9.1 V	Motorola	IN5239A
D2	QV2-0002	Diode, Zener, 3.3 V	Motorola	IN5226A
D3	QV2-0003	Diode, Zener, 5.6 V	Motorola	IN5232B
D4	QV2-0004	Diode, Zener, 5.1 V	Motorola	IN5231B
D5	QV2-0004	Diode, Zener, 5.1 V	Motorola	IN5231B
D6	QV2-0001	Diode, Zener, 9.1 V	Motorola	IN5239A
D7	QV2-0002	Diode, Zener, 3.3 V	Motorola	IN5226A
D8	QV2-0003	Diode, Zener, 5.6 V	Motorola	IN5232B
D9	QV2-0004	Diode, Zener, 5.1 V	Motorola	IN5231B
D10	QV2-0004	Diode, Zener, 5.1 V	Motorola	IN5231B
D11	QV2-0006	Diode, Zener, 68 V	Motorola	IN3040B
D12	QV2-0006	Diode, Zener, 68 V	Motorola	IN3040B
D13	QV2-0006	Diode, Zener, 68 V	Motorola	IN3040B
D14	QV3-0001	Diode, Bridge	B & T	BFW-100
D15	QV3-0003	Diode, Bridge	B & T	BFW-600
Q1	VB0-0001	Transistor, Silicon PNP	Motorola	2N2904
Q2	VB0-1001	Transistor, Silicon NPN	Motorola	2N3053
Q3	VB2-1001	Transistor, Power NPN	Motorola	MJE521
Q4	VB2-0001	Transistor, Power PNP	Motorola	MJE371
R1	RG3-8200	Res., Comp., 820 Ω, ½W, 5%	AB	
R2	RG3-8200	Res., Comp., 820 Ω, ½W, 5%	AB	
R3	RG3-6800	Res., Comp., 680 Ω, ½W, 5%	AB	
R4	RG3-6800	Res., Comp., 680 Ω, ½W, 5%	AB	
R5	RC3-2210	Res., Film, 221 Ω, ½W, 1%	Electra	MF7C
R6	RC3-2210	Res., Film, 221 Ω, ½W, 1%	Electra	MF7C
R7	RG3-6800	Res., Comp., 680 Ω, ½W, 5%	AB	
R8	RG3-6800	Res., Comp., 680 Ω, ½W, 5%	AB	
R9	RG5-5601	Res., Comp., 5.6 k Ω, 2W, 5%	AB	
		MISCELLANEOUS		
	GV0-0001	Heat Sink	Thermalloy	2226B
	JS0-0002	Fuse Holder	Littlefuse	101002

Figure 6-2A. Parts List, 15 V and 200 V Power Supply Assembly (BL2-0221)

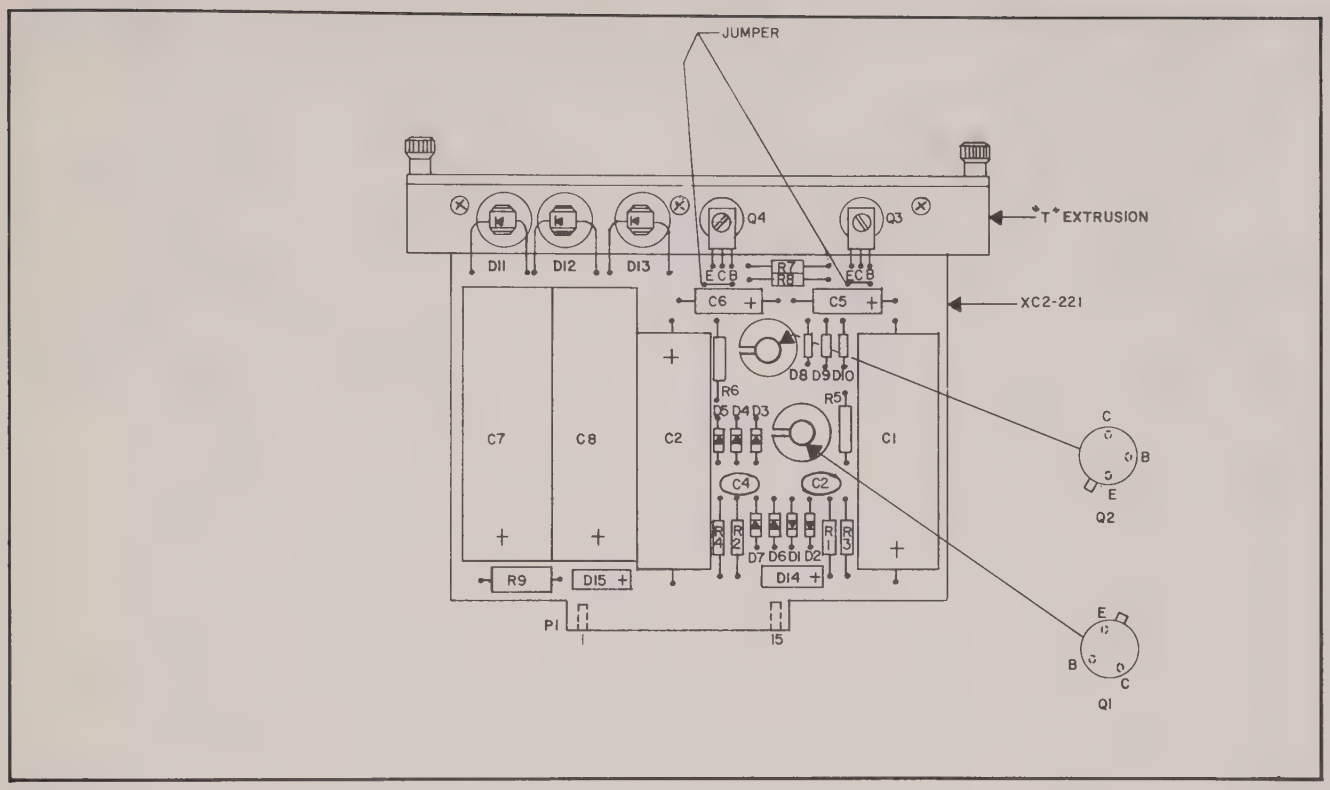


Figure 6-2B. Component Identification, 15 V and 200 V Power Supply Assembly

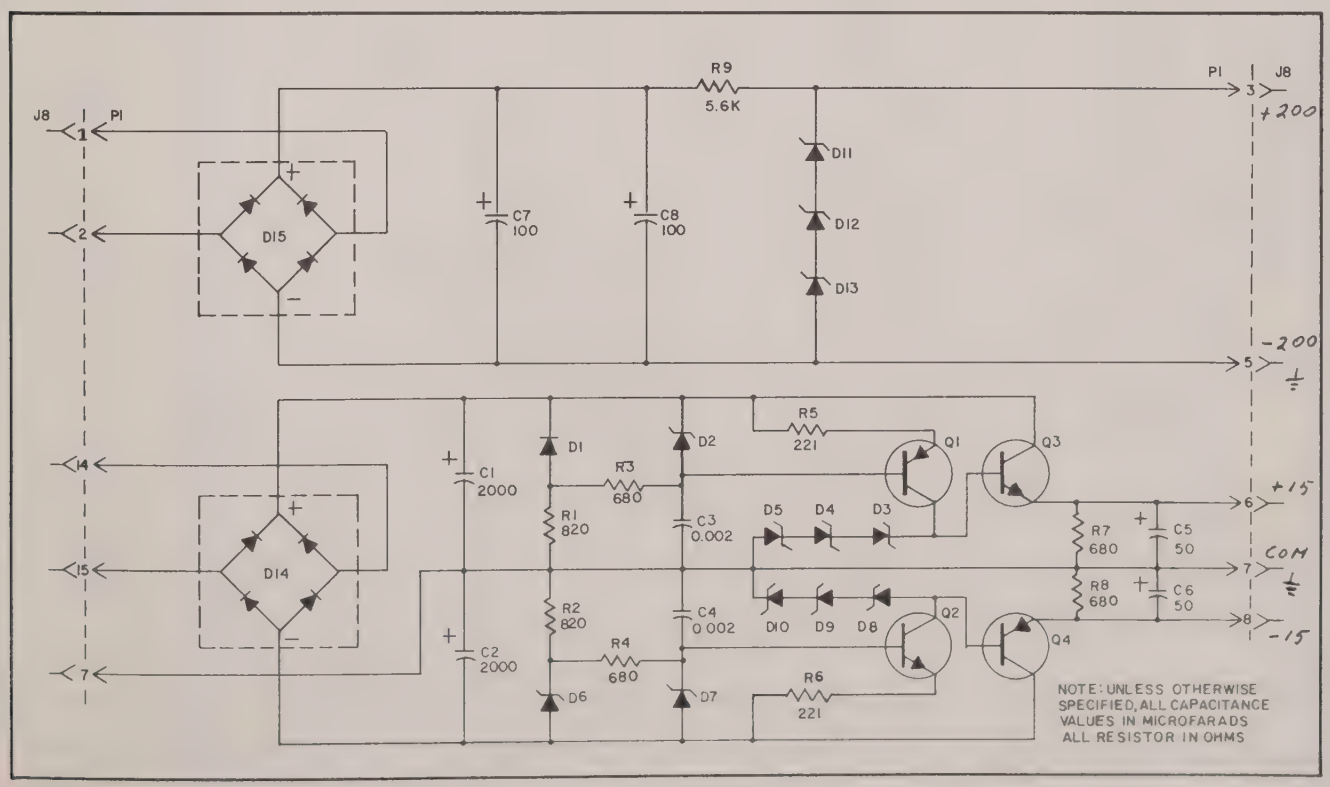


Figure 6-2C. Schematic, 15 V and 200 V Power Supply

Symbol	Part No.	Description	Typical Mfr.	Mfr's Part No.
A1	VS0-0002	Amplifier	AD	118
C1	CS4-1062	Cap., Polyester, 10 μF @ 63 Vdc	Eromet	HW610/06
C2	CS4-1062	Cap., Polyester, 10 μF @ 63 Vdc	Eromet	HW610/06
C3	CK9-0501	Cap., Ceramic, 5 pF @ 1 kVdc	Erie	831-000-COGO-509C
C4	CE3-5065	Cap., Electrolytic, 50 μF @ 25 Vdc	Sprague	TE-1209
C5	CE3-5065	Cap., Electrolytic, 50 μF @ 25 Vdc	Sprague	TE-1209
C6	CE6-2062	Cap., Electrolytic, 20 μF @ 150 Vdc	CDE	BR20-150
C7	CL7-2243	Cap., Mylar, 0.22 μF @ 400 Vdc	CDE	MPY4P22
D1	QV6-0001	Diode, Special	Centralab	IN474 OR 2ea IN5232 5.6V ZENER
D2	QV0-0001	Diode, Silicon	Motorola	IN4148
I1	VC4-0001	Bulb	Sylvania	10CSB
J1	JC0-0001	Connector, BNC	Amphenol	UG-1094/U
Q1	VB3-1002	Transistor, Darlington	GE	2N5305
Q2	VB0-1002	Transistor, Silicon NPN	Motorola	2N4123
Q3	VB4-1002	Transistor, N-Ch FET	Motorola	2N4222
R1	RC3-1004	Res., Film, 1 M Ω, ½W, 1%	Electra	MF7C
R2	RC3-6812	Res., Film, 68.1 k Ω, ½W, 1%	Electra	MF7C
R3	RC3-9092	Res., Film, 90.9 K Ω, ½W, 1%	Electra	MF7C
R4	RC3-1122	Res., Film, 11.2 k Ω, ½W, 1%	Electra	MF7C
R5	RC3-4642	Res., Film, 46.4 k Ω, ½W, 1%	Electra	MF7C
R6	PA3-5041	Res., Var., P.C., 500 k Ω, ½W	Bourns	3368-P-1-504
R7	PB3-1041	Res., Var., Lugs, 100 k Ω, ½W	Bourns	3368S-1-104
R8	RC3-3162	Res., Film, 31.6 k Ω, ½W, 1%	Electra	MF7C
R9	RC3-2101	Res., Film, 2.1 k Ω, ½W, 1%	Electra	MF7C
R10	RC3-5110	Res., Film, 511 Ω, ½W, 1%	Electra	MF7C
R11	RC3-1052	Res., Film, 10.5 k Ω, ½W, 1%	Electra	MF7C
R12	RC3-8251	Res., Film, 8.25 k Ω, ½W, 1%	Electra	MF7C
R13	RC3-2002	Res., Film, 20 k Ω, ½W, 1%	Electra	MF7C
R14	RC3-1000	Res., Film, 100 Ω, ½W, 1%	Electra	MF7C
R15	RC3-1003	Res., Film, 100 k Ω, ½W, 1%	Electra	MF7C
R16	RT4-0121	Res., Wirewound, 12 Ω, 1½W, 5%	Ohmite	995-1A
R17	RH3-3303	Res., Comp., 33 k Ω, ½W, 10%	AB	
R18	RH3-2205	Res., Comp., 22 M Ω, ½W, 10%	AB	
R19	RH3-3901	Res., Comp., 3.9 k Ω, ½W, 10%	AB	
R20	RH3-5003	Res., Comp., 500 k Ω, ½W, 10%	AB	
R21	RH3-4701	Res., Comp., 4.7 k Ω, ½W, 10%	AB	
R22	RH3-1004	Res., Comp., 1 M Ω, ½W, 10%	AB	
S1	OR2-0501	Switch, Rotary, 2 Pole, 5 Pos.	ALCO	MRA-2-5S
		MISCELLANEOUS		
	JV4-0201	Socket, Lamp	Sylvania	30153-0
	SC3-0001	Lens Cap	Sylvania	30160-0
	SN1-0001	Knob	Rogan	RB-67-0-M-L

Figure 6-3A. Parts List, Signal Conditioner Model 222-2

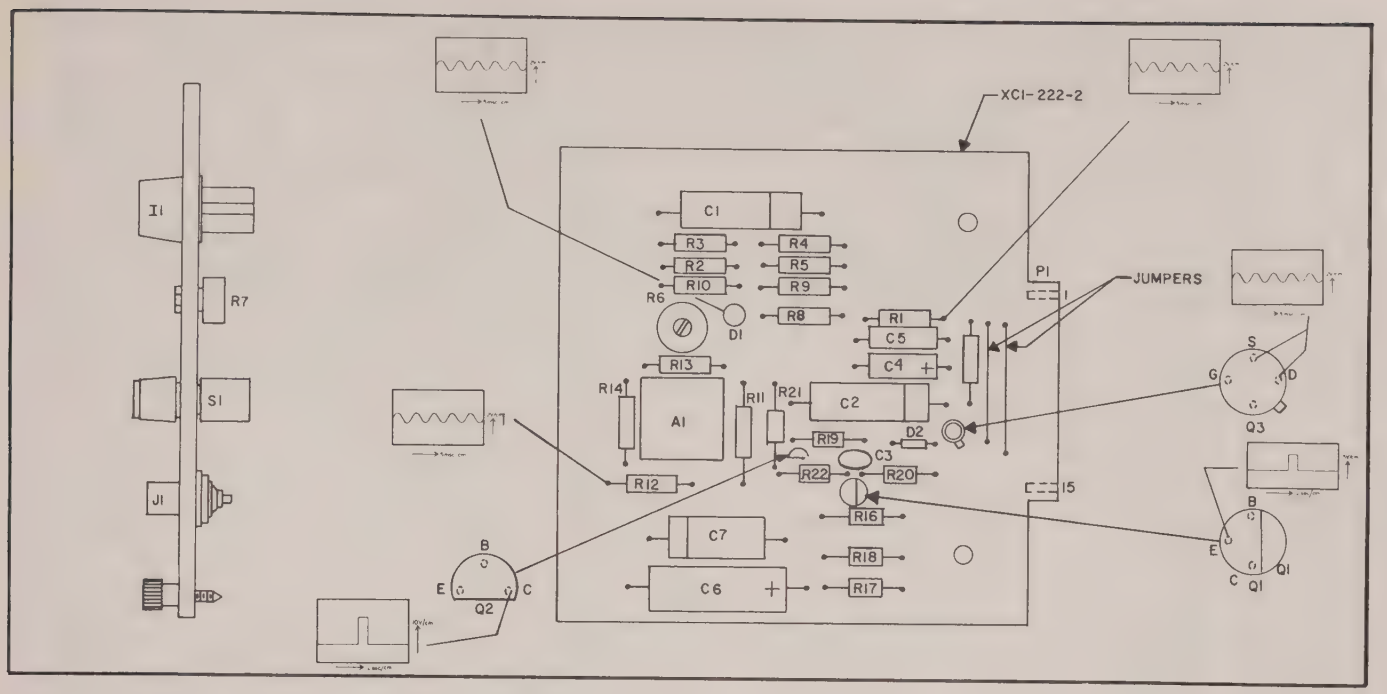


Figure 6-3B. Component Identification, Signal Conditioner Model 222-2 Assembly

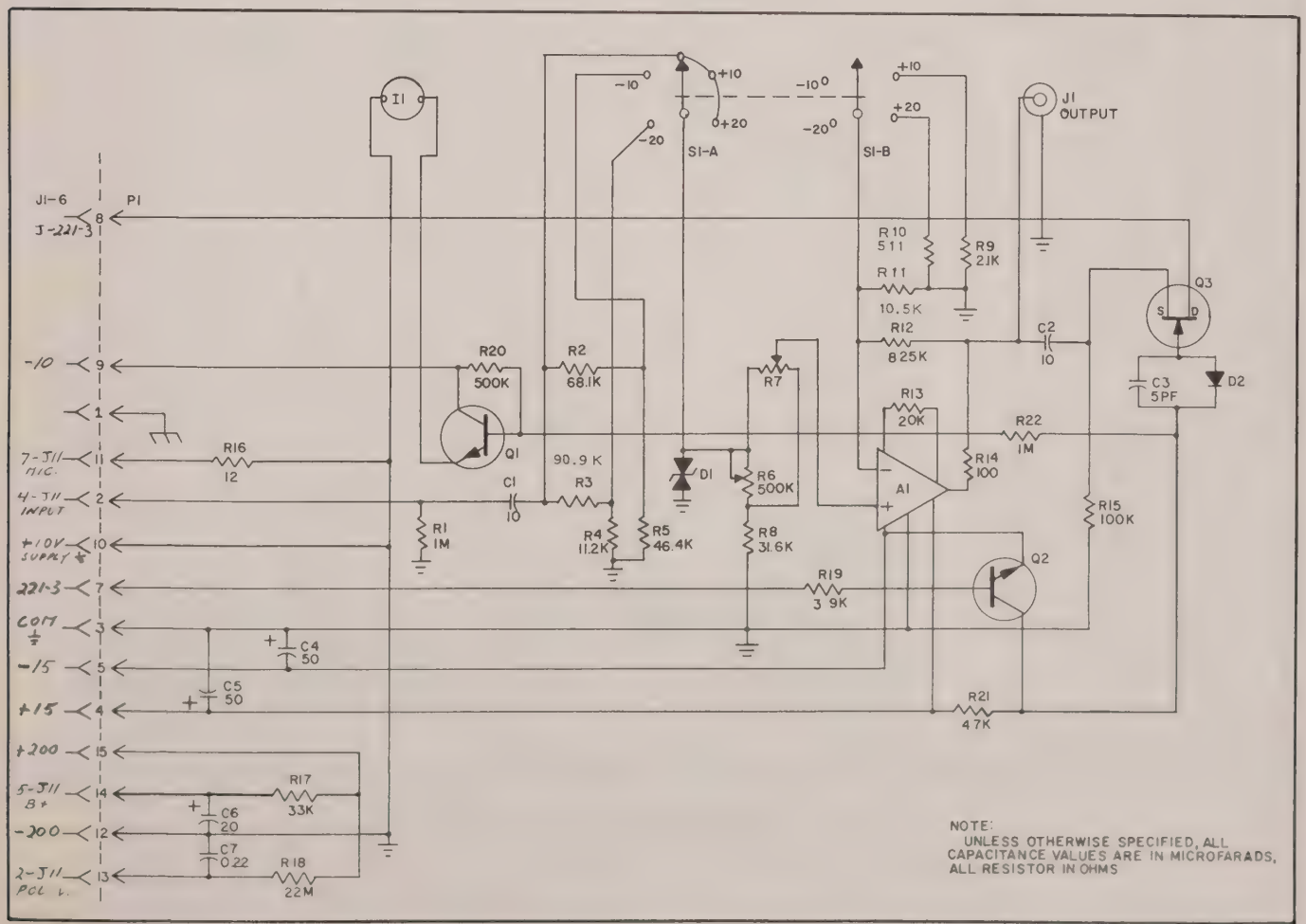
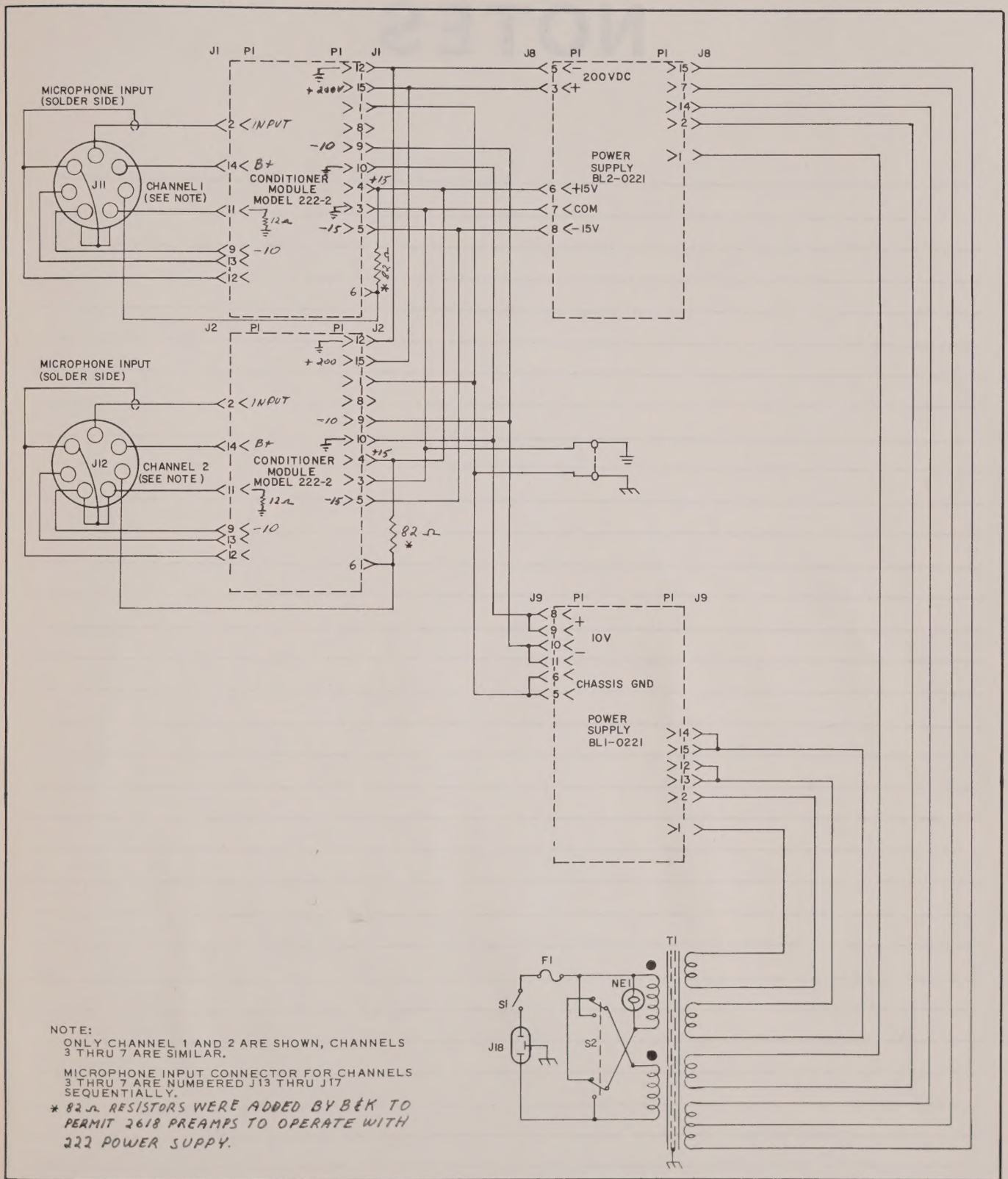


Figure 6-3C. Schematic, Signal Conditioner Model 222-2

Symbol	Part No.	Description	Typical Mfr.	Mfr's Part No.
F1	VF4-2001	Fuse, Lamp, Slo-Blo	Littlefuse	313.001
J1	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J2	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J3	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J4	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J5	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J6	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J7	JJ0-3001	Connector, Edge	Cinch Jones	251-50-30A-30
J8	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J9	JJ0-1501	Connector, Edge	Cinch Jones	250-50-15A-20
J10	JJ0-0601	Connector, Multipin	Cannon	KPTO-2E-10-6S
J11	JJ0-0701	Connector, Microphone	Bruel & Kjaer	JJ-0703
J12	JJ0-0701	Connector, Microphone	Bruel & Kjaer	JJ-0703
J13	JJ0-0701	Connector, Microphone	Bruel & Kjaer	JJ-0703
J14	JJ0-0701	Connector, Microphone	Bruel & Kjaer	JJ-0703
J15	JJ0-0701	Connector, Microphone	Bruel & Kjaer	JJ-0703
J16	JJ0-0701	Connector, Microphone	Bruel & Kjaer	JJ-0703
J18	JA0-0001	Connector, Power	Switchcraft	AC3
S1	OT0-0101	Switch, Toggle, SPST	H.H. Smith	590
S2	ON0-0001	Switch, Slide, DPDT	Switchcraft	46256LFR
T1	LA3-0002	Transformer, Power	Central Trans	B65-101
		MISCELLANEOUS		
	AO1-0001	Power Cord	Belden	17258
	DH0-0001	Handle	Amer. Handle	184-5041
	JS0-0001	Fuse Holder	Littlefuse	342014

Figure 6-4A. Parts List, Main Frame Assembly



NOTE:
ONLY CHANNEL 1 AND 2 ARE SHOWN, CHANNELS 3 THRU 7 ARE SIMILAR.

MICROPHONE INPUT CONNECTOR FOR CHANNELS 3 THRU 7 ARE NUMBERED J13 THRU J17 SEQUENTIALLY.

* 82Ω RESISTORS WERE ADDED BY BÉK TO PERMIT 2618 PREAMPS TO OPERATE WITH 222 POWER SUPPY.

Figure 6-4B. Wiring Diagram, Main Frame Assembly

NOTES

The B & K main office and factory is located in modern facilities on Cleveland's West Side just 5 minutes from the Hopkins International Airport.

B&K INSTRUMENTS, INC.
Brüel & Kjaer Precision Instruments
5111 West 164th Street • Cleveland, OH 44142
Telephone: (216) 267-4800 • TWX: (810) 421-8266

1440 S. State College Blvd. • Anaheim, CA 92806
Telephone: (714) 778-2450 • TWX: (910) 595-1137

© 1971, B & K Instruments, Inc., Cleveland, Ohio

Printed in U.S.A.